In '98 it Was 'Remember the Maine,' Now It's 'Remember Pearl Harbor'

THE AIR LINE PILOT

Vol. 10—No. 11 | Published by The Air Line Pilots Association, International, 3145 W. 63rd St., Chicago, Ill. | December 1941

UNIVERSITY OF LOUISVILLE JAN 14 1942

Signing of National's Agreement Completes Domestic Contracts

LATE NEWS IN BRIEF

Recruits

A campaign "expected to bring 300,000 flying crew members and 120,000 applicants for commissions as flying officers into Army Air Forces," has been announced by the War Department.

Trans-Canada

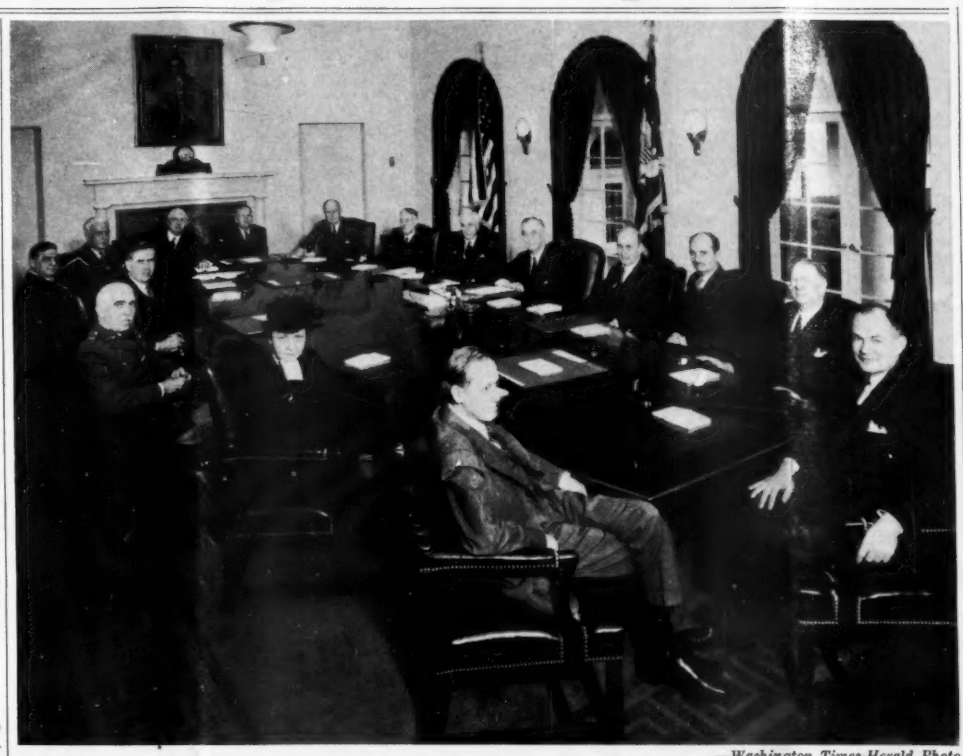
Trans-Canada Air Lines carried 135,581 pounds of air mail in October, representing the largest volume of air mail in the Line's history. During the corresponding month in 1940, 94,164 pounds were carried. This year 9,383 passengers boarded Trans-Canada's planes in October, as compared with 9,165 in September.

Housing

Construction of buildings to house the Civil Aeronautics Administration on the property of the Washington National Airport adjacent to the old Public Roads Administration Station was recently announced by the Washington Park and Planning Commission. The project will provide 200,000 square feet of space.

Approaches

The Civil Aeronautics Administration has reported 7,362 approaches for the initial six months of this year. Total number of instrument approaches at 88 airports reporting to the CAA airway traffic control service has more than tripled between 1939 and 1941. The Chicago airport has 647 instrument approaches, which is the largest number.



—*Washington Times-Herald Photo*

PRESIDENT ROOSEVELT AND HIS WAR CABINET - **This photograph of the President's War Cabinet was made at a recent meeting. Pictured here (reading clockwise from the immediate foreground) are Lease-Lend Administrator Harry Hopkins, Secretary of Labor Francis Perkins, Col. Philip B. Fleming, Federal Works Administrator; Vice-President Henry A. Wallace, Civil Defense Administrator Fiorello H. La Guardia, Federal Security Administrator Paul V. McNutt, Secretary of Commerce Jesse Jones (also Federal Loan Administrator), Secretary of the Interior Harold Ickes, Postmaster General Frank Walker, Secretary of War Henry L. Stimson, Secretary of State Cordell Hull, President Roosevelt, Secretary of the Treasury Henry Morgenthau, Jr., Attorney General Francis Biddle, Secretary of the Navy Frank Knox, and Secretary of Agriculture Claude Wickard.**

24-Hour Clock System Adopted

In a communication dated November 17 to the Air Line Pilots Association, Donald H. Connolly, Administrator of Civil Aeronautics, wrote on the subject of extending the 24-hour clock system

(Continued on Page 8, Col. 3)

Line Pilots Test UHF Facilities

On November 25-27 inclusive, a subcommittee of the Air Traffic Control & Airway Aids Advisory Committee made a trip to the Civil Aeronautics Administration's experimental station at Indian-

(Continued on Page 6, Col. 1)

13th Aero Drs.' Meet a Success

By HERBERT F. FENWICK, M. D., President

Many important papers on Aero Medical Research were presented at the thirteenth annual meeting of the Aero Medical Association of the United States.

Flight surgeons and aviation medicine specialists convened from October 30 to November 2 at the Statler Hotel in Boston.

Dr. J. H. Tillisch of the Mayo Clinic presented a paper on "The Physical Maintenance of Transport Pilots," in which he discussed the necessity for more thorough and complete physical examination of flight personnel.

Analysis of Physical Ailments

"Transportation of Patients by Airplanes," was the subject discussed by Dr. W. R. Lovelace. An analysis was made of the many physical ailments that passengers could have and still safely fly.

Dr. W. M. Boothby, Professor of Experimental Metabolism at the Mayo Clinic, talked on "Recent Problems in High Altitude Flying." In his talk Dr. Boothby brought up the dangers of the sub-

(Continued on Page 4, Col. 1)

FINAL *In all things there must be a beginning and an end. The gigantic task of making 16 employment agreements covering the rates of pay, rules, and working conditions of the many hundreds of pilots employed by the 16 domestic air carrier companies was started July 25, 1938 and completed December 9, 1941. American Airlines was the first to sign a contract with its pilots on May 15, 1939, and National Airlines was the last, signing theirs on December 9, 1941. In all of these contract making conferences, the pilots were represented by David L. Behncke, President of the Air Line Pilots Association, who was in each instance ably assisted by duly chosen representatives of the pilots. In the picture are the pilot conferees of National Airlines busily engaged in preconference deliberation. L. to r.: J. M. Gilmour, National pilot and Chairman of Council No. 8; David L. Behncke, Pres. of ALPA; E. A. Springer, National pilot; Stroube Lander, National copilot; and C. H. Ruby, National pilot.*

17 Contracts Now Completed

The Air Line Pilots Association's extensive domestic pilot employment agreement negotiating program came to an end with the signing of a contract with National Airlines, Inc., at its headquarters at Jacksonville, Florida, on December 9, 1941.

This contract was presented to the company on June 26, 1940, approximately one year and six months ago. Although several conferences were held, these negotiations did not actually get under way in earnest until about six months ago.

The company was represented at the conference table by G. T. Baker, President; E. J. Kershaw, Vice-President in Charge of Operations; and H. S. Parker, Jr., Vice-President. Acting for the pilots were J. M. Gilmour, Chairman of local Council No. 8; Charles Ruby, pilot; Robert Peck, pilot; S. S. Lander, copilot representative; and David L. Behncke, President of ALPA.

Mediation Invoked

After numerous conferences had been held the negotiations

(Continued on Page 4, Col. 4)

Aviation Industry Honors Founders

In commemoration to "Man's First Powered Flight, by Wilbur and Orville Wright at Kitty Hawk, N. C., December 17, 1903," a dinner was held December 19 in Atlantic City.

Special invitations to the eighth annual observance were extended to Dr. Orville Wright, the New Jersey Aviation Commission, and other prominent personages in civil and military aviation. The Committee for Aviation Day in Atlantic City was in charge of the event.

Tracing the story of aviation, the verse below was written by Alvin Hunsicker and read at last year's Aviation Day luncheon.

ORVILLE WRIGHT

The eagle in his highest flight
May well remember Orville Wright.
He put the noble bird to shame
Beat him at his flying game.
This haughty bird is king no more
No wonder he is feeling sore
For Orville boldly showed the way
His airplane idea came to stay.
Mars, the ancient God of War,
Was a piker, nothing more.
Some old cities took the rap
But none were blasted off the map.
The airplane with its mighty power
Speed, four hundred miles an hour
Now drops bombs both night and day
"Blitzkrieg" is the modern way.
Man it seems is not content
To discover and invent
Things that add to human life
Instead, its ruin, war, and strife.
Man is master of his fate
He can fill his soul with hate;
But the Brotherhood of Man
Will not come on such a plan.
Man's farewell gives him a choice,
For this gift he should rejoice;
Thoughts of power and hate must cease
Before this troubled world has peace.

THE AIR LINE PILOT

Vol. 10—No. 11 289 December 1941

Published monthly by the Air Line Pilots Association International
Affiliated with A. F. of L.

Annual Subscription $2.50

David L. Behncke ..... President
Laurence W. Harris ..... Secretary
Harold L. Knoop ..... Treasurer
Walter G. Hughen ..... First Vice President

Vice Presidents, Foreign

Wm. D. Knox ..... Seattle
J. H. Miller ..... Lima, Peru
K. V. Beer ..... San Francisco

Vice Presidents, Domestic

J. H. Roe ..... Kansas City
E. R. Brown ..... Atlanta
Arthur Mills ..... Dallas
Ralph Johnson ..... Oakland
H. B. Rueschenberg ..... Seattle
H. H. Montague ..... Salt Lake City
F. F. Preeg ..... Los Angeles
Robert Chew ..... Miami
S. J. Nelson ..... New York
W. F. Richmond ..... Minneapolis

H. Murphy ..... Acting Legislative Representative

Entered as Second Class Matter March 11, 1933, at the Post Office at Chicago, Illinois, under the Act of March 3, 1879.

Editorial Offices:
3145 W. 63rd St., Chicago, Ill. Telephone Hemlock 5015

David L. Behncke ..... Editor *Olive Barnes ..... Asst. Editor*

"Public Safety calls for pilots of high character and great skill. The occupation is a hazardous one. Therefore, the law should provide for a method to fix maximum flying hours, minimum pay and a system for retirement or annuity benefits."
—President Roosevelt.

WAR

It's a terrible word, but it is scaring no one. Pearl Harbor has been made the brunt of the famous Axis diplomatic technique—the double cross. The isolationists have bravely eaten their crow, and the good old U. S. A. is now united as never before. Our country has been attacked in an unspeakably cruel and dastardly treacherous manner, fraught with depravity, and void of all international decency and honorable tradition born of hundreds of years of civilization—but there will be a day of reckoning. What can we do to help? The best and most worthwhile service that the air line pilots can perform is to continue to man the country's air liners to keep them performing at peak efficiency, unerringly carrying men, messages, and goods to keep the wheels of the arsenal of democracy spinning at top speed to produce victory for a free people. And last, but not least, don't forget to buy that National Defense Bond each time you receive your paycheck. It's an investment in victory, and each bond is a calling card to remind our two-timing, double-crossing Axis neighbors that we are remembering Pearl Harbor in 1941 as we remembered the Maine in 1898. And if anyone believes that the good old American fighting spirit is dead, well, all that can be said is, "It's a serious mistake."

DON'T STICK YOUR NECK OUT

Now that we are actually again in another winter's bad weather flying, probably the best rule to follow is: "Don't stick your neck out," and that applies to everybody: pilots, operating officials, and dispatchers. There are already two strikes on the record, namely, Fargo and St. Thomas—two terrible accidents which occurred less than 24 hours apart on October 20. The former has been solved and the pilot exonerated, and so far as the latter is concerned, thus far the cause is unknown, and, therefore, no reasonable person can by any stretch of imagination blame it on the pilot. We shall repeat again and again, even though it becomes irritating to a certain few, that we cannot solve accidents by chiseling "Pilot Error" on the deceased pilot's tombstone. We can solve accidents by applying the ultimate of human investigating capabilities in a thoroughly scientific and independent effort to establish the real cause or causes. Now that we are actually at war, it is doubly important to "be on the alert to prevent accidents," and let's by all means not stick our necks out.

TOO MANY LAWYERS

From Tennyson's "Charge of the Light Brigade."	*Parody (Apologies to Tennyson)*
Theirs not to make reply,	Pilots not to make reply,
Theirs not to reason why,	Pilots not to reason why,
Theirs but to do and die.	Pilots but to be d — — if they do And d — — if they don't.
Cannon to right of them,	Lawyers to the right of them,
Cannon to left of them,	Lawyers to the left of them,
Cannon in front of them.	Lawyers in front of them.

The inspiration that created this little parody was born at a recent hearing in Washington involving a line pilot who was charged with 'geeing' instead of 'hawing' etc., etc.

In deciding matters of this kind isn't it about time we eliminated endless meaningless legal technicalities and bickerings, and started illuminating cockpit facts?

—David L. Behncke

APOLOGIZES, DEAR READERS—ALL THREE

By FRED W. WAHL
Council No. 21, IAL
Cheyenne, Wyo.

Apologies, dear readers—all 24 of you on IAL and two from KC.

Gee, I thought I could sort of ease the strain on my necktie supporter, that knob which keeps it from slipping off over the top, and so did not get this epistle in for some time. Then, wham, all and sundry 24 readers and a letter from KC wants to know what happened to ye scribe. So here goes, let the chips fall where they may. Any reference to incidents or to any persons living or dead is purely accidental.

A recent request for pictures from OUR GANG certainly fell on deaf ears, for none were forthcoming. If you guys don't help, we will run some you would rather not see in print. FISHING SEASON IS OVER!

Case of Mistaken Identity

Wha-a-a-a-a. Such are the sounds emitting from the residence of one Harmsen family, announcing the arrival of a husky young son. Who was the dispatcher who was called out in the wee small hours to help get the patient to the hospital, due to Bill's absence caused by being with his fraternity brother somewhere out west, and then was mistaken by the nurses as the daddy? Did you ever blush, Marv!

Mrs. Marvin Landes had to postpone a trip east recently and take time out to present Marv with a husky young son, their second. Looks as if IAL will not want in the future for personnel. From what we hear, Bill Harmsen is going to get an instructor's rating, and he plans to take over after solo period is reached. Congratulations to both of you proud boys for being such fine fathers. We hope yours are twins, Herb and Ray, to make up for lost time.

Can Imagine Leaving Sheep for Hula Land

Latest addition to our flying personnel is T. E. (Tom) Cooke who hails from some high spot of gound, somewhere out in the Pacific. Hawaii to you educated folks, including PAA drivers who had geography in school. Can you imagine anyone leaving those Hula gals for our barren hills and sheep. I can imagine one leaving sheep for Hula dancers, but otherwise, UNH-UNH. Rumors through the grapevine have it that Tom's folks are on a cattle ranch on the Island. Gosh, cattle ranches in Hula land are news to me. A swell chappie, and hands off, gals — that's right, married.

Bob Cansdale will have to get a cook to help prepare some of the variety of wild game he has been getting via rifle and shotgun during his days off. He's had so much deer and antelope his beard is starting to look like animal hair, and his gait is getting springy. Even feathers are cropping out in his hair from wild ducks, and every time a flock goes over, he feels as if they were relatives.

Forgets to Watch Road in Excitement of Chase

That reminds me, I promised an account of Joe Leferink and Chuck Aagard's hunting trip. Well, seems as if one antelope trip was not so successful, so recently they took an afternoon off and hied themselves out north in search of the nimble beasts. While

(Continued on Page 8, Col. 3)

Chicken Today—Feathers Tomorrow

By M. A. C. JOHNSON
Concil No. 51, EAL
New York, N. Y.

NOTICE: If you think there's an EAL news item in this article, you're nuts. Save your time and read what others have to say. But . . . if you admire a good bird dog, like tall corn and watermelons, plain and fancy hogs, or have trouble collecting fishworms for bait—read on, but don't say I didn't warn you.

Summer is gone and winter draws on. Even leaves on the trees are beginning to leave. The windows are full of panes. The dishes are undercover. The carpet is lying low. Far away on the hillside a horse stirred — or was it a cock pheasant? Under the ocean an elephant flew, and from his trunk, all tattered and torn, he gulped four gallons of homemade corn. Three ducks in a box made a box of quackers. It's chicken today—and feathers tomorrow.

Cross Between a Bloodhound, Great Dane, Dachshund

You know, fellows, I've got to get serious like this before I can tell you about my bird dog, Rover, given to me by a tramp in Montana while I farmed the old homestead in Sweetgrass County, just south of Harlowton. He was a cross, so the tramp told me, between a bloodhound, great Dane, and dachshund—all noble ancestors—had a nose like a giraffe, was lazy and stubborn, but intelligent.

So one morning I got my 8-gauge, 13-shot repeater, and started to climb the gully where I'd planted corn. (You'll hear more about this corn later.) Rover heeled like a veteran hunter at first, then slowly trailed off into an impenetrable jungle of fallen trees, briars, and undergrowth near the top of the ridge. He did not heed my call for him to come out.

What a Dog! What a Dog!

An hour passed before I saw him climbing up a cornstalk at the lower end of the field, soon to disappear again. After several minutes of close observation, I could see that he was picking up corn, removing the shucks, and was apparently shelling the corn between his teeth and working his way up the ridge nearer to my position. This procedure went on for some time. As he neared the briar thicket, he continued to shell corn, disappearing from sight only to return, get another ear, and hit it for the briar patch. All the while I was thinking, "What a dog! What a dog!"

All my attempts to call him from his antics were futile, but finally he walked over toward me, scratched and bleeding around the eyes, gave one of those sway-backed stretches, with tongue out, that only a dog can do; then he laid at my feet.

I started toward home calling him, but he would not budge. So I was curious and located a comfortable position nearby, out of the wind, and fired up the old corncob pipe — and just waited. Around 3 o'clock in the afternoon Rover came to life, executed his stretching act, yawned a couple of

(Continued on Page 3, Col. 3)

"To fly West, my friend, is a flight we all must take for a final check."

In Constant Memoriam

Accidental ***Active***

Adams, John B.—U. A. L.
Anderson, Lloyd—U. A. L.
Andert, Paul A.—U. A. L.
Barrett, Joseph C., Jr.—PAA-Caribbean
Barron, John M., Jr.—A. A.
Bickford, L. A.—Panagra
Bigelow, Ed.—U. A. L.
Blom, Edwin W.—U. A. L.
Bogen, W. L.—W. A. E.
Bohnet, Frederick L.—T. W. A.
Bolton, Harvey F.—T. W. A.
Bontrager, C. M.—R. A. L.
Borchers, Adrian—P. A. A.
Bowen, J. E.—T. W. A.
Bowen, Lewis L.—B. A.
Brandon, James L.—U. A. L.
Briggs, Francis W.—A. A.
Broughton, D. E.—U. A. L.
Brunk, Paul S.—P. A. A.
Bucher, Charles L.—P. A. A.
Chamberlain, Cassius B.—N. W.
Cohn, Hanley G.—W. A. S.
Cope, Alonzo—Marine Airways
Cox, Floyd—Ludington
Davis, Alfred W.—U. A. L.
Davis, Douglas—E. A. L.
DeCesare, Frank—Panagra
De Cesaro, Joseph G.—U. A. L.
Dietz, Stuart G.—E. A. L.
Dixon, Andrew, Jr.—D. A. L.
Dunn, Stephen—Panagra
Fey, Howard—U. A. L.
Fields, Glenn T.—A. A.
Fuller, Ray E.—A. A.
George, Hal—T. W. A.
Gower, Vernon L.—D. A. L.
Grover, R. Boyd—U. A. L.
Haid, Arthur A.—N. W.
Hale, S. H.—E. A. L.
Hallgren, W. A.—A. A.
Hill, George W.—A. A.
Holbrook, Clyde M.—A. A.
Holsenbeck, W. M.—P. A. A.
Jamellier, Stanley E.—C. A. L.
Jamieson, W. L.—E. A. L.
Jones, Lloyd E.—U. A. L.
Kelsey, Harold J.—A. A.
Kincanon, Ted N.—A. A.
King, George B.—P. A. A.
Komdat, Albert C.—E. A. L.
Lewis, Harry C.—T. W. A.
Livermore, Joe—N. W.
Lucas, Al—W. A. S.
Lucas, Verne—Ludington
Lynn, John B.—C. & S. A. L.
McMickle, Harold—Panagra
Mallck, Forrest E.—U. A. L.
Maner, Nick B.—N. W.
Marshall, Gerald V.—A. A.
Merrifield, Austin S.—U. A. L.
Montee, Ralph—T. W. A.
Montijo, John G.—V. A. T.
Morgan, Howard R.—T. W. A.
Mossman, Russell C.—C. & S. A. L.
Neff, Harold—U. A. L.
Noe, Earl J.—T. W. A.
Norby, Raymond B.—N. W.
Odell, M. T.—A. A.
*Onsgard, Alden—N. W. A.
Owens, Clifford P.—W. A. E.
Paschal, A.—P. A. A.
Perry, J. A.—E. A. L.
Person, Addison G.—P. A. A.
Potter, Norman W.—U. A. L.
Pursley, C. H.—Panagra
Radoll, R. W.—U. A. L.
Riggs, Russell S.—A. A.
Robbins, Wm. J. B.—A. A.
Rose, John A.—K. L. M.
Rousch, Chas. W.—N. W.
Rust, F. H.—A. A.
Salisbury, Hervey M.—T. W. A.
Sandblom, J. V.—C. P.
Sandegren, Thomas E.—U. A. L.
Sauceda, J. M.—P. A. A.
Scott, P. T. W.—T. W. A.
Scott, Philip C.—U. A. L.
Scroggins, Lowell V.—P. C. A.
Sharpnack, J. W.—U. A. L.
Sheets, Don W.—Panagra
Sherwood, George C.—W. A. E.
Supple, Robert E.—Panagra
Tarrant, Harold R.—U. A. L.
Terletzky, Leo—P. A. A.
*Thomas, L. E.—E. A. L.
Thompson, A. B.—U. A. L.
Underwood, Sanford L.—A. A.
Vance, Claire K.—U. A. L.
Waldron, Joe—A. A.
Walker, M. A.—P. A. A.
Wallace, Clyde W.—T. W. A.
Weatherdon, Edwin—A. A.
West, F. W.—N. W.
Wieselmayer, Otto—P. A. A.
Williamson, P. B.—E. A. L.
Worthen, John A.—W. W.
*Wright, J. S.—T. W. A.
Young, George S.—U. A. L.
Zeier, Carl F.—C. & S. A. L.

Natural

Blomgren, Lloyd I.—A. A.
Cochrane, Robert M.—U. A. L.
Fife, John A.—C. A.
*Gambee, Harley T.—T. W. A.
Hohag, R. J.—N. W.
Jamieson, Leland S.—E. A. L.
McConaughey, Ira M.—A. A.
Phelps, Henry T.—P. A. A.
Swanson, Axel—A. A.

Inactive

Anderline, Frank W.; Ashford, Ted; Barr, Julius; Burford, Dean W.; Caldwell, G. Q.; Drayton, Chas. M.; Huisman, Herbert W.; Hunter, Lewis W.; Judy, H. R.; Kerwin, J. J.; Noyes, Dewey L.; Ormsbee, F.; Riddle, Glenn L.; Roulstone, J. J.; Rousch, Usher E.; Shelton, Boyd M.; Stark, Howard C.; Veblen, E. H.; Walbridge, Donald C.; Wheaton, Harold H.; Whittemore, Fred W.; Wolf, John F.; Willey, Sidney L.

Waiting List

Brock, Wm. S.; Kiser, Daniel.

Unemployed

Downs, Lloyd; Hays, George L.; Keadle, Floyd E.; Rhiner, L. H.

Active U. S. Air Corps

Darby, James E.; Nelson, Franklin S.

Honorary

Greene, Dr. Ralph; Rogers, Will.

* *Apprentice Member.*

—Northwest Airlines Photo

IT'S MAYOR FREEBURG IN A RECENT MUNICIPAL ELECTION, THE WELL-KNOWN NORTHWEST AIRLINES PILOT, MAL FREEBURG, RECIPIENT OF THE WORLD'S FIRST AIR MAIL MEDAL OF HONOR, WAS ELECTED MAYOR OF RICHFIELD, MINN., A THRIVING YOUNG METROPOLIS BORDERING ON THE CITY OF MINNEAPOLIS. THE CONTEST WAS HEATED, BUT WHEN IT ENDED THE REFEREE RAISED FREEBURG'S ARM IN THE GOOD OLD AMERICAN TOKEN OF VICTORY. THE SUCCESSFUL CANDIDATE MODESTLY ACCEPTED THE HONOR THAT THE PEOPLE OF RICHFIELD CONFERRED UPON HIM AND SAID, "I STAND FOR SOUND, HONEST, AND PROGRESSIVE GOVERNMENT BY THE PEOPLE, FOR THE PEOPLE, ETC., ETC., ETC." SERIOUSLY, WE WISH YOU SUCCESS, MAL, AND HOPE THAT YOUR ADMINISTRATION WILL BE SINGULARLY SUCCESSFUL.

Charlie's a Night Shift Floorwalker

By W. E. HINTON
Council No. 22, AA
New York, N. Y.

Charlie Macatee is walking the floor again nights, but is very happy with his new daughter, Elizabeth Earl.

The following is just a little information as to where some of our money is going. I do not think any of us are objecting to the help we are giving England, but when some of the territories the sun never sets on wants to pay us cash money for airplane parts, and we can't accept it, something smells, and it's not in Denmark.

A certain New York company was sent an order from a privately owned air line in Australia for two Hornet engines and parts enough for several overhauls. The order totaled about $96,000. The Lend-Lease in Washington would not permit this U. S. company to handle the deal, claiming that it would not allow private enterprise to compete against them in the market. The Australian air line wanted to pay cash money for this order, but that still did not help the situation—it was still no deal.

Several weeks later a representative of the U. S. company was in the office of the British Purchasing Commission in New York and was shown a order, approved by the Lend-Lease, for $96,000 worth of parts and engines for the Australian air line. It was approved after the British had said the air line was a necessity for the possible movement or evacuation of troops in Australia.

So it ends up that we, with our own dollars, are purchasing equipment and sending it abroad to maintain privately owned air lines, and our Government agencies will not let them pay us even when they want to. Someone should ask someone else WHY?

Campaign Victor

It's not only Capt. Mal Freeburg now . . . it's his honor, the Mayor, too. In recent municipal elections the well-known Northwest Airlines pilot was elected Mayor of Richfield, suburb of Minneapolis, Minn.

An old hand at managing controls, Freeburg is expected to do well at the helm of the Richfield ship of state. He was helped in his campaigning by some of his fellow Northwest Airlines pilots.

When election returns were counted on December 2, it was discovered that Freeburg had ousted an incumbent of 12 years by 16 votes. Four candidates sought the office of mayor in "the fastest growing district in Minnesota."

Freeburg is the first air mail pilot to be awarded the air mail honor medal. He received this for his superlative courage when his plane tore one of its motors loose as he was flying a mail ship from St. Paul to Chicago. Aboard the plane were eight passengers, six men and two women. Freeburg took his plane over the Mississippi, and by expert maneuvering he finally shook the motor loose and dropped it into the river. He continued on and slowly landed his passengers.

Several years prior to this time he became nationally prominent when, from the air, he signaled a passenger train to stop before it reached a blazing trestle.

PAA Will Fly to Ireland Again

Pan American Airways has announced that it expects to reinstate its transatlantic service this winter to Foynes, Ireland. The service will operate only over the southern route for a short time, and in the spring it will provide direct connections with important American bases in Newfoundland and other North Atlantic areas. Changes in the Neutrality Act now make this service possible.

Fired Up the Old Corncob, Waited

(Continued from Page 2)

times, and headed for the briar patch.

Thirteen Grouse with 13-Shot Repeater

I followed him as far as I could comfortably, trying to figure out what the h— — he was up to. Hearing considerable commotion, and not knowing what might happen next, I began loading my 13-shot repeater. Just as the thirteenth shell was thrown into the chamber of my shotgun—b-u-r-r-r, up comes a grouse. I shot this one as he zoomed over a tree directly toward me, the dead bird falling at my feet. B-u-r-r-r, and another grouse in the same position, and so on until I had killed 13 birds.

You cannot possibly imagine my surprise. I stood there for several minutes, then slowly started to reload my gun and called to Rover. He did not come to me, but I heard him whining gently far in the thicket. When the breech closed on the thirteenth shell again, the fireworks started. One by one those big grouse came over that sapling, each so perfectly timed that it was amazing. In the course of a few minutes I had killed 26 grouse, without moving out of my tracks. All fell in a pile neatly together, and not a cripple was in the bunch.

Front Paws Cover Opening of Log

Anxious to get a look at Rover, and against all odds, I withdrew my hunting knife and began cutting my way through the thicket. At last I gained a position to observe what was going on. There sat Rover on his hind quarters, backed up to a hollow log, with his front paws covering the opening, shaking his massive head as he whined and pleaded for me to hurry up and load my gun. I had but six remaining shells, and these were good for six more grouse. Rover kept an eye on me.

What a sight it was to see him lift his paws to release one bird at a time. I could scarcely believe what I had actually seen. I finally coaxed him away from the log and was further astounded to see him kill five more of the remaining grouse by batting them down with a front paw as they made their exit. The remaining birds were liberated, and, to my further surprise, a little red fox came out of that log like a streak of fire. Good Old Rover was right on his tail as they disappeared from sight in the general direction of Yellowstone Park.

Corn Grows Too High for Ladder

TALL CORN. I promised to tell you more about that corn. Well, here it is. It was shot into the ice with my shotgun the year before, about a week before Christmas. By New Year's that corn was up and coming, and I decided to have some roasting ears for dinner. Went to the field and discovered that I could not reach the ears—too tall, and I estimated a 15-foot ladder would do the trick. Took me about an hour to build that ladder, and by the time I had arrived the corn had grown another three feet or so, and I decided to cut it down.

So I stopped by the woodpile to get my double-bitted axe. Well, sir, do you believe me—that corn was growing so fast that I was unable to chop it down. Couldn't hit it twice in the same place, so I gave up the job and let it go to seed.

Couldn't Catch Watermelons—Grew Too Fast

FLAT WATERMELONS. So I decided to plant watermelons between the rows of corn. The snow and ice was about four feet deep,

(Continued on Page 4, Col. 5)

Cupid Scores —It's Chiles

By J. P. TALTON
Council No. 7, EAL
Atlanta, Ga.

Probably the greatest event of the local news from Council No. 7 is the marriage of Pilot Chiles, who was finally hog-tied by a dainty Atlanta Miss — namely Margaret Deas.

Chiles is now enjoying his second week of matrimonial bliss, and says he recommends the institution highly to all his bachelor friends. Most of the bachelors are rejoicing because he leaves the pasture gates open to lots of green fields. We all wish Chiles lots of happiness and success.

New Check Pilot in Atlanta

Our congratulations also to Slim Thomas who has been made check pilot in Atlanta. We are sure that Slim will do his best to keep the boys in line.

At this time your scribe would like to enter a plea for greater cooperation of all members of the

(Continued on Page 8, Col. 2)

Arise at Ungodly Hour; Drive Miles; Shoot Mud Hens

By J. H. CATCHINGS
Council No. 39, AA
Chicago, Ill.

Plenty of activity is going on around here this season of the year. Since our council is full of big outdoor men, the tales of prowess in the blinds and around the hedges are so fascinating it is quite difficult to concentrate on preparations of one's flight plan.

The Fred Bailey Goose and Gun Club on the Illinois River boasts about 15 members who get up at ungodly hours, drive hundreds of miles, row through jungle-like waters to the blinds, and wind up the day with a couple of mud hens.

Risks Life and Limbs to Follow Friends

These boys are rugged though, and you have to be tough to hunt with them. In order to report accurately on the hunting activities to my loyal readers (my wife and one of her bridge friends), I risked life and limb and followed Leslie Van Meter and Tom Hill down to the camp one dark night.

Tom suggested that as I was to follow in my car I name the cruising speed. Seeing he was driving a Ford, I told him to suit himself —that I could keep up with his bucket-of-bolts. Boy, did I make a bad mistake! Just beyond Joliet we passed under a southbound Chicago & Southern trip, and later caught up with a Braniff trip that departed 30 minutes ahead of us. I found out later that Tom has a Rolls-Royce engine in his flivver with a two-speed turbo-supercharger, Bendix hydraulic steering control, five forward speeds, and a Sperry Road Holder.

Not a Good Day for Ducks

Oh, the ducks? Well, it wasn't such a good day for them. They wouldn't mess around with anything under 800-2. A few of them had their licenses (along with their tail feathers) lifted for coming in below limits.

Some of the boys are reporting getting their limit of Peasants, Pheagles, and Phurkeys.

Pet Gripe Department: Being held out by ATC for 40 minutes and then coming in to find "local flying" going on. 25,346 pounds and taxes!

Gee, my manuals certainly got behind while writing this. Roger-r-r-.

—TWA Photo

HOLLOWAY CRATERS **A scientific research links craters discovered from the air by TWA Captain H. H. (Dutch) Holloway with Meteor Crater near Winslow, Ariz. It is claimed by meteorite authorities that the terrific impact of the huge meteorite, which resulted in Meteor Crater, collapsed the rock roofs of underground caverns, creating 38 craters 20 miles south of Winslow, Ariz., and 42 miles southeast of Giant and Meteor Crater. Captain Holloway first sighted the 38 craters situated on a hook delta between Chevalon and Wild Cat Canyons. Later he discussed his theory of the huge pits with Edsel Ford, motor magnate, while he was flying as a passenger with Holloway. A Ford-TWA expedition was later organized under the direction of Dr. Nininger to explore Holloway's find, which will add greatly to scientific knowledge concerning the impact forces of falling meteorites,which in this instance are reported to have caused the discovery of a huge underground network of caverns beneath the earth's surface, the roofs of some of which were collapsed by the meteorite impact which caused Meteor Crater. The entrance to these caverns have not yet been discovered.**

Capt. "Rick" Says CAA Training Created Pool

The remarkable expansion of Eastern Air Lines as experienced during the past several years is clearly reflected in the fact that they now employ approximately 320 captains and, according to Capt. E. V. Rickenbacker, the Company's President, they plan to add 100 additional pilots during the next year.

Recently, the Captain said, "We are often asked if the calling of several of our pilots into military services has discommoded our flight organization from a personnel standpoint. The answer is emphatically no. For this reason: the Civilian Pilot Training Program has created a pilot 'pool,' so to speak, of such magnitude and of such quality that we have had no difficulty in obtaining qualified flying personnel even at a time of increasing standards.

"The average young man qualified to seek employment as an air line pilot today has at least three years of college, is in peak physical condition, and has from 500 to 800 hours' experience in flying ships of various types."

Denver in 1942

(Continued from Page 1)

stratosphere and the necessity of improving oxygen equipment.

Dr. Sam Bassett of St. Louis, Mo., presented a paper on the use of amphetamine sulfate in the treatment of Aero-Nausea, and demonstrated the effectiveness of this new remedy by actual results on air line passengers.

Flying with Colds

With the aid of colored lantern slides, Major Paul A. Campbell of the U. S. Army School of Aviation Medicine demonstrated "The Effect of Flight upon the Ears and Hearing." He discussed the dangers of high altitude flying when pilots are afflicted with a nose and throat cold.

At a scientific session held in the Department of Physicology in the Harvard Medical School, Dr. Stanley Cobb, Professor of Neuropathology, lectured on the early detection of neurotic symptoms. Dr. Soma Weiss, Professor of Medicine, discussed "Peripheral Vascular System During Physiologic Stress."

Series of Papers Presented

Scientific papers also were given by Lt. Commander Leon D. Carson and Commander Eric Liljencrantz, both of the U. S. Navy; Dr. A. J. Herbolsteimer of the Civil Aeronautics Administration; Dr. Ernest A. Pinson of the Aero Medical Research Laboratory at Wright Field; Major M. S. White, Lt. C. E. Kossman, and Lt. Irving Ershler, of the U. S. Army.

Dr. H. C. Hinshaw of Mayo Clinic; Dr. W. A. Ostendorf, Assistant Chief of the Medical Division of the Civil Aeronautics Administration; Colonel David N. W. Grant, Air Surgeon, Army Air Forces; Commander J. C. Adams, Chief Flight Surgeon of the U. S. Navy; and Dr. W. R. Stovall, Chief of the Medical Division, Civil Aeronautics Administration.

The fourteenth annual session will be held in September, 1942, at Denver, Colo.

RAF Fund Head Thanks Pilots

During the past several months, the air line pilots have contributed various amounts to the Royal Air Force Benevolent Fund, and recently a letter was received from Thomas H. Beck, President of this organization, in which he said:

"Please know how grateful the members and Trustees of the Fund are to you and the Air Line Pilots Association for this generous pledge of faith to as fine a cause as will ever come our way again. It is indeed a tribute to England's and America's gallant airmen. I hope you will be kind enough to convey to your fellow members the gratitude we all feel."

Winged Couriers of Good Will

Vicious, flesh-eating birds interrupt ablutions being shakily accomplished by the Inter-American Escadrille voyagers with the aid of a canoe and jungle lake in Northern Brazil, in this fourth installment recounted by Skipper James Evan Farris. The party is flying toward Para, Brazil. To be continued in the January issue.

Ceilings kept getting lower with heavy rain areas, and the country did not in the least resemble the charts. We had no radio bearings whatsoever, and there was but one charted light as a reference point in the entire route. This was an automatic unattended flash beacon and, according to the chart, located on the shore of an island, but was found to be on exactly the opposite shore of the island as charted.

Farris lands at Trinidad, Bolivia, a jungle river town lying at the foot of the mighty Andes. Here are shown two types of air carriers: A woman with a basket on her head and the Grumman. Bolivians greatly admire American mechanization and aviation development, as is evidenced by their close inspection of the sky visitor. Many South American towns are off the beaten path and almost completely isolated from the rest of the world because of lack of modern transportation facilities, so an occasion of this kind is really momentous.

Limited Fuel Range; Head Winds

Having been previously warned by the Panair pilots flying this route that, in view of our limited fuel range and head winds and rainy weather, we should set up a flight plan that would definitely get us across the Amazon River region and into Para around noon or else stay out, we had not gone far when we realized how too true this was. Our loss of time that morning in flying from Paramaribo to Cayenne, plus the time lost in refueling at Cayenne, definitely put us out of Cayenne too late to have good weather getting across the river. Those of you who have tried to explain weather, fuel range, and alternate airports to passengers will understand my predicament.

Arriving in Cayenne it was still comparatively early, and it was pointed out to my passengers that due to the time lost we would be leaving Cayenne too late to be sure of getting into Para, and that while there was no risk involved they could look forward to an 80% chance of the extreme inconvenience of spending the night on some jungle lake fighting mosquitoes. However, a popular consensus had it we should start out and go as far as we could. I decided that if they didn't mind sitting on a jungle lake I didn't either.

The information was also advanced to me that Panair's schedule was leaving shortly and going through. Incidentally, this was true. However, as I have said before, try to explain to passengers that there is a difference between a Grumman, with six hours' fuel (in Trinidad a tank giving the ship two extra hours of fuel was installed) and no radio bearings, and a large air liner, with ten or more hours' fuel and with radio bearings.

Ceilings Lowering; Weather Getting Worse

Well, anyway, here we were well out over the jungle in very lousy weather, ceilings as low as 300 feet. However, behind us about one hour's flight time was a CAVU area to which we knew we could always return. Cranking up my dot and dash radio I got hold of Para who advised us that ceilings were lowering and weather getting worse at our destination. Since we did not have enough fuel to go all the way to Para and back to our alternate, which was Lake Amapa, this necessitated a "point of no return" or "radius of action" along our route, which we could not go past without having to keep going. Arriving at this "point of no return," the ceilings went down from 0 to 200 feet, and had lowered in general behind us.

However, the Lake Amapa region was wide open when we went by it two hours before, so we pulled up on instruments to seaward and back up the coast toward the lake. Arriving back in this vicinity, we circled nearly an hour looking for this darned lake. I had saved some extra fuel for just such a situation. The chart showed one lake, and we could see three large ones and no houses near any of them — just jungle. There was supposed to be a landing strip one mile north of Lake Amapa, and there was only supposed to be one lake in this whole area. As I have pointed out before we found three lakes, but no landing strip.

Chart Requires Careful Interpretation

The problem was finally solved, however, by assuming that the most conspicuous points on the chart had probably been charted correctly. Since there was a large island offshore and Lake Amapa was supposed to have a little town near it by the name of Montenegro, it was assumed that the chart maker set up his instruments in these two localities, and that their respective altitudes and longitudes were probably correct.

I then determined the course and distance from the highest and most conspicuous point on the offshore island to the charted town of Montenegro, flew over this point on the island, and steered the course inland for the correct number of minutes and seconds by my Jardur watch. When my copilot looked over the side he saw an iron float in the center of a little lake perhaps 2,000 feet long, which was Lake Amapa, not 1/20th the size as charted and out of sight of the other three big lakes that were there but not shown on the chart. According to the Hydrographic chart, this area had been charted in 1866. The iron float had been placed there years ago by the old Nyrba Airline.

The town of Montenegro consisted of three tiny houses. We found a runway that had been built by the Brazilian Government, or rather hewed out, just north of this lake and landed there, and walked through the jungle back to a shack where the General and the rest of the party stayed overnight with the natives.

(Continued on Page 7, Col. 1)

Bickers Mediates First and Last

(Continued from Page 1)

deadlocked, and the services of the National Mediation Board were invoked. On June 7, 1941, the National Mediation Board assigned Mediator John Walsh to handle the case. Later he was withdrawn temporarily to complete cases assigned to him prior to the National Airlines assignment. In the interim, in order to expedite matters, the Board assigned Mediator T. E. Bickers to the case. Mr. Bickers called a conference in Jacksonville, Florida, beginning on December 2, 1941. After seven days of negotiating, a contract was signed on the afternoon of December 9, 1941.

Mediator Bickers' entrance into the case was unique in that he was the federal representative of the National Mediation Board that mediated *the first and last air line pilots' agreement.* The first was on the original pilots' employment agreement with American Airlines, concluded May 15, 1939, and the last was with National Airlines, Inc., concluded on December 9, 1941. Mediator Bickers, a veteran of more than twenty years in the field of employer-employee relations, was justly proud of the first and last part he played in the making of line pilot employment agreements covering the vast domestic air line network.

Contract Completion Receives Highest Commendation

Bickers remarked, "The Air Line Pilots Association's and the air carriers' 100% accomplishment of signing agreements in the time consumed is phenomenal, and, that to the best of my knowledge, it is the only accomplishment of its kind in the field of labor relations. All are deserving of highest commendation."

Both the 1939 and 1940 ALPA conventions passed resolutions instructing Headquarters to complete contracts with all of the air carriers, both domestic and foreign, with the greatest possible expeditiousness, and furthermore that this should be regarded strictly as the number one "must" project of the organization. Accordingly, the executive staff of ALPA concentrated diligently on this task and can now say to the members that the job has been finished, with the exception of one foreign air carrier, Pan American.

Members Receive Greatest Christmas Present

Of this accomplishment President Behncke said, "It's the finest Christmas present that the Association could possibly extend to its membership. The extensiveness of the effort involved and the general all-around worth of employment agreements will probably never be fully realized, nevertheless, the job has been done, and it marks the greatest milestone of accomplishment yet achieved by the organization, eclipsed only by its legislative successes. Out of uncertainty, confusion, and insecurity has arisen a new high in pilot-employer relations, in the form of well thought out contractually established relations between all of the domestic pilots and the domestic air carriers. The pilots have come a long way since they organized, along some very tedious pathways, to establish their present good relations with their employers, all of which is distinctly beneficial both to the companies and the pilots, and is invaluable to air safety and to the proposition of uninterrupted air transportation service to the government and the public."

A Month of Urgent Travel

The activities in general of the organization for the past month amounted to a fast moving panorama of events. Headquarters was kept busy with the work of completing many projects that were normally regarded as the work of 1941. President Behncke and his assistant, Walt Anderson, spent practically the entire month of December traveling from place to place on urgent Association busi-

(Continued on Page 5, Col. 5)

Vines Grew Too Fast; Couldn't Catch Melons

(Continued from Page 3)

and again I used my trusty shotgun to do the plantin'. Before January 20 I mean to tell you I really had a crop of melons. Thousands of them and big ones, too. But I still had my troubles. The vines were growing so fast that I was unable to catch them, and they were worn flat on the bottom side from skidding around on the ice.

Finally built a spur track along the bottom of the cliff and erected a chute directing the melons right into the flat cars. It was a simple matter to load the trusty old 8-gauge with buckshot and shoot the stems off, sometimes releasing 50 or more at a crack. I only got half price for them, however, on account of them being so flat.

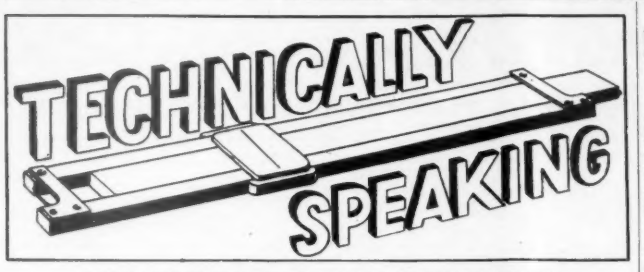
Squinch-Eyed Hogs and Fish Bait

Along in March there came a Chinook wind, and the snow and ice was quickly melted. Gooey, sticky red mud now covered the entire farm, particularly in the cornfield. I had at that time over 400 head of degenerate hogs — squinch-eyed hogs—with long legs in front and short legs behind. Over a period of breeding and habits they had just naturally become that way due to feeding on the mountain side, and from pulling a large mud ball around on the end of their tails. They were squinch-eyed due to the mud ball on their tail pulling their hide back, and most of them held their heads high in the air, the sun blinding them, causing a squinch-eyed breed. As you may also see, they were short legged behind due to the tremendous weight of the mud balls pulling them down and down, and their front legs grew long.

I wanted to salvage some of the tall corn and flat watermelons left in the field, so I turned the entire bunch of hogs loose to sort of fatten them up for early spring sale. Well, to my sorrow, the mud balls got 'em, every last one of them. The farther they would go in search of food, the larger the mud balls would get. Some of the mud balls were as large as 50-gallon oil drums. I tried to keep all of the mud balls shot off their tail ends, but my ammunition ran out busting mud balls, and every d— — one of them died of starvation. Yes sir, fellows, my hogs were all blinded—they just couldn't see to eat that spring. Those cussed mud balls had pulled their hides back too far.

But here's one bright spot in this drama that caused the extinction of my squinch-eyed herd. Soon as the fields dried up sufficiently for me to get a Harlowton, I bought some ammunition. I had discovered that every mud ball was filled with hundreds of earthworms, the best kind of fish bait for trout in the early spring and summer. So every day I'd go fishin'. Bait? I'd just take a crack at one of those mud balls now partly dried out, and the worms would really fly. I painted a sign on the side of my shack "Wurms for Sail," and did a mail order business on the side.

Rolled several mud balls down the mountain to the brook, and, as a result, I really had some BIG fish. I still get an occasional letter from Sweetgrass County telling me of a prize fish that was caught on my humstead. What a place. What a country. God's country. Montana! My shack was built on the side of a hill so steep that I had to swing in the front door on a grapevine. The owls slept with the chickens. Planted corn for shade trees around the house. Had a mountain lion for a watchdog. The sun came up between my place and town. Lived in the country so far my breath still smells like cordwood. The woodpeckers ate up the schoolhouse when I was in the fourth grade. Funny old world. Maybe that's why my dog, Rover, turned up one day the following summer with that red fox in his mouth.



CARBURETOR ICING AND PREVENTION

By ALEXANDER N. TROSHKIN, Power Plant Specialist

One of the great dangers of aircraft operation is ice. Its hazardous effect on the aerodynamic characteristics of the airplane has been explained in a bulletin entitled "Icing of Aircraft" by B. C. Haynes, Air Safety Specialist in Meteorology. Its effect on the operation of the power plant is perhaps far more insidious than on the aircraft. The formation of ice on the wings is something that in most cases is visible to the pilot and, with the exception of more or less unusual conditions, there is a wider time interval elapsing before the accumulation is large enough to affect seriously the aerodynamic characteristics or safety of the aircraft as compared with the rapidity with which carburetor ice is formed.

Carburetor or induction ice is not visible to the pilot. The first indication of icing is a loss of power with the loss increasing at a rapid rate. It is possible to have the power seriously affected in less than a minute after the ice accumulation has started. The engine may cut out completely a short time after this unless immediate corrective steps are taken. Carburetor icing under certain conditions can occur when the atmospheric temperature is as high as 80°F., although generally it is encountered only between 20°F., and 65°F., when accompanied with a high relative humidity, rain or overcast. Below 20°F. the danger of ice formations is less because the quantity of water vapor in the air is slight.

Must Recognize Icing Symptoms

The element of surprise that is attendant on carburetor icing makes it essential that the pilot be conversant with icing conditions and icing symptoms. He must be able to judge and be aware of the weather conditions within which carburetor icing is possible so that he can properly adjust his carburetor heat controls in order to prevent icing. He must be able to recognize the symptoms of icing so that corrective steps are taken as soon as the first signs of icing have appeared. The ice formation should not be allowed to start, but in the event that it does it must be checked and eliminated in its early stages. After a severe loss in power it is almost impossible to check further formation or eliminate the ice unless the aircraft is equipped with de-icing mediums other than heat.

CAUSE OF ICING: Carburetor icing is not a mysterious occurrence but is the result or aftermath of the changes taking place within the carburetor during the course of its intended operation. The carburetor in performing its function of metering fuel and air under various engine operating conditions induces the following changes in the fuel and intake air which contribute to the refrigeration of the mixture: (1) Vaporization of the liquid fuel; (2) changes in intake air and mixture velocity and consequently pressure; (3) evaporation of moisture or water entrained in the intake air.

Heat Is Drawn From Intake Air

Of all these factors the vaporization of fuel contributes the greatest by far to the refrigeration of the mixture and is always present regardless of atmospheric conditions with respect to moisture, water, etc. The vaporization of the liquid fuel requires heat, and this heat is drawn from the intake air. The temperature drop due to vaporization of the fuel may be as much as 40°F. The total drop to all of the three influencing factors may be as much as 60°F. Under these possible temperature reduction conditions, it can be readily appreciated that even during summer operations the temperature in the carburetor at the throat, throttle, or the adapter can be at 32°F. or lower, and, if at the same time the atmosphere has a relatively high humidity and/or when flying through clouds or rain, an ice formation will occur.

The temperature drop due to velocity and pressure changes is in most cases small and generally does not exceed 6 or 7°F. However, when this drop is combined with the refrigeration effect of fuel vaporization, it may mean the difference between an icing or non-icing condition.

The cooling induced by the evaporation of moisture or water entrained in the air is not as great as that due to fuel vaporization but under some atmospheric condition may be an important contributing factor to icing.

Evaporation Establishes Equilibrium

It is possible to have a rainfall occurring in an atmosphere having a humidity of 70 or 80%. Under these conditions the rain droplets tend to evaporate so as to establish an equilibrium between the vapor pressure of the rain droplets and the atmosphere. Such condition of equilibrium will be reached when the atmospheric humidity arrives at 100%. However, the process is slow and, therefore, the air can be drawn into the intake system at below 100% humidity and with free water present. The evaporation process, which requires heat, is continued in the induction system, and the rate may increase due to turbulence and velocity of the air. Thus the heat absorption necessary for the evaporation of the moisture will result in a drop in temperature of the mixture.

The phenomenon of icing when operating in a rain or overcast is undoubtedly much more easily understood than the icing that occurs when the atmosphere appears perfectly clear and at atmospheric temperature which normally makes no one think of ice. It is this atmospheric condition that is not visible and is subject to rapid changes during a flight course which is the most hazardous, particularly to the inexperienced pilot.

Temperature Controls Retention

Air is capable of retaining a certain amount of moisture in the form of water vapor and the maximum amount it can retain varies directly with the temperature—the higher the temperature the greater the vapor retaining ability. The maximum amount of moisture that the air can retain at any given temperature is referred to as 100% relative humidity. Air at 60°F. and 100% relative humidity contains 11.2 lbs. of water vapor per 1000 lbs. of dry air; at 32°F. and 100% relative humidity this is decreased to 3.8 lbs. of water vapor per 1000 lbs. of air. If air at 60°F., 100% humidity, is cooled to 32°F., then the moisture in excess of 3.8 lbs. per 1000 lbs. of air is condensed out as free water, and at that temperature it will freeze.

A 75 H.P. engine at cruising R.P.M. consumes approximately 500 lbs. of air per hour, and, under the conditions outlined above, there would be 4 lbs. of free water per hour passing through the carburetor. This is equivalent to 1.84 cubic inches of water per minute. A portion of this condensed moisture will be deposited on the venturi, butterfly, etc., and with the temperature at 32°F., or lower, ice will be formed. Rain will, of course, increase the amount of water available over that obtained through condensation due to temperature drop, and this will strongly influence the rate of ice accumulation. The ice deposited results in a reduction of the venturi opening, blanketing of the carburetor fuel jet, and a possible jamming of the throttle. More than one or all of these conditions may occur simultaneously. Any one is sufficient to cause a serious loss in power, and to result in complete failure if not corrected immediately.

The location of the ice formation may be indicated to some extent by the symptoms of the engine during its power loss. This can be illustrated as follows:

Pressure Will Gradually Decrease

(1) A formation at the butterfly valve will reduce the area of the intake passage and have somewhat the same effect as a gradual closing of the throttle. If a manifold pressure gauge is installed, it will be noted that the pressure will gradually decrease although probably fluctuate during the drop. The fluctuation is caused by some of the ice deposits breaking away from time to time. Engine R.P.M. will also drop and fluctuate while dropping due to the reasons outlined above.

(2) Formation of the ice in the venturi or vicinity of the jet can result in either excessive leanness or richness. This is largely dependent upon the location and shape of the formation. Should the ice result in a turbulent air flow around the jet it is possible that the mixture would lean out. However, if the flow remains normal but increases in velocity due to a reduction in the venturi area, then the mixture would become rich.

Regardless of which individual characteristics are shown they all result in a loss of power.

Serious Icing At Low Throttle Settings

The rate of ice formation at the throttle is increased with a decrease in throttle settings because: (A) of the greater expansion effect and consequently pressure drop in the region of the throttle; (B) the increased rate of fuel evaporation in the region of the throttle. For this reason serious icing can occur when maneuvering at low or closed throttle settings. Prolonged glides, simulated landings at part throttle, closed throttle spins, etc., are dangerous under icing conditions and should be avoided.

ICE PREVENTION: It is well to remember that it takes a considerably greater intake air temperature rise to eliminate an ice formation within a reasonable time interval than it does to prevent the formation. Therefore, the icing problem should be attacked from a preventive point of view rather than an attempted cure after the formation has started. Somewhat akin to human illness, an ounce of prevention is equal to pounds of cure.

The most common means of preventing and removing ice formations is heat. No ice can form in the carburetor providing the mixture temperature is held above 32°F. and preferably in the region of 35°F. to avoid making the temperature condition too critical. In engine installations equipped with mixture temperature indicators the pilot can be guided by temperature and R.P.M. or manifold pressure. Some installations have the temperature indicated in the intake air duct before the carburetor; in those cases the intake air temperature should be maintained at approximately 75°F. or at a temperature sufficient to maintain 35°F. mixture.

Secure Data From Manufacturer

The intake air temperature required to prevent icing varies somewhat with the type of engine and the installation. It is advisable to obtain non-icing temperature data from the manufacturer where this type of installation is employed. No matter where the temperature indicator is located, it is essential that either the manifold pressure gauge or the R.P.M. be watched when the outside air temperature is at 70°F. or lower. If a decrease in power or any other icing symptoms are noted, treat it as icing regardless of the mixture or intake air temperature. The temperature indicator may be sufficiently off calibration to falsely indicate a non-icing temperature condition.

Where no temperature indicators are installed, as is the case with most low-powered airplanes, it is then advisable to operate with carburetor heat "full on" when the atmospheric temperature is 70°F. or lower. It is permissible to take off with carburetor heat at "full cold" in order to develop the maximum take-off power, but during warm-up and idling and immediately after safe flying speed has been reached, the heat should be applied.

Heat Control Valve At "Full On"

When no mixture or intake air temperature indicators are installed, it is essential that the heat control valve be placed at "full on" and not in any intermediate position, inasmuch as the pilot has no means of determining at what point adequate heat is being applied. Normally in low-powered aircraft very little heat is added to the intake air until the control is almost at its maximum heat position.

In event that an ice formation and accompanying loss of power do occur because sufficient heat was not applied, then it is advisable to apply all heat available until it is ascertained that all the ice has been eliminated. A check on this can be made by returning the heat to "full cold" for a short period to see whether or not the original power has been regained. After eliminating the ice, the intake heat can be reduced (providing the aircraft is equipped with temperature indicators) to a point where it is sufficient to prevent further ice formations.

If adequate heat is not applied at the early stages of icing, there may be a great enough loss of power so that the available exhaust heat will be insufficient to remove or prevent further formations of ice. The remaining possible "out" under this condition is to place the heat control on the "full cold" position and lean the engine with the mixture control until it backfires through the carburetor. If this is attempted with the heat control on "full hot," serious damage may be done to the heat control valve, to other parts of the preheating system, and possibly to the carburetor by the backfire.

May Bend and Break Butterfly Valve

Backfiring through the carburetor may break and blow the ice out. It may be necessary to backfire several times before the ice is cleared out and even this is not certain but only a last resort. The backfiring may frequently bend and break the butterfly valve, and therefore the aircraft should not be flown again without a very thorough inspection of the carburetor.

OPERATING RULES: Carburetor icing can be avoided providing the heating system is adequate, carefully serviced and maintained, and properly used by the pilot. Just a few common sense rules need be followed in order to stay clear of engine icing:

(1) Be "Ice-conscious" whenever the temperature is 70°F. or below.

(2) Make certain that the intake air preheater is in proper working condition. Check the preheater for cracks and burning through due to heat erosion. Make certain that when the heat control is at "full hot" the valve completely cuts off the entrance of cold air into the induction system.

Maintain Intake Air Temperature at 75°F

(3) Keep the heat control at "full on" when the atmospheric temperature is at 70°F. or less, or maintain a mixture temperature at not less than 35°F. or maintain intake air temperature at 75°F. (provided the manufacturer advises that this is sufficient to maintain a 35°F. mixture). Always use full heat on all low-power aircraft not equipped with mixture or intake air temperature indicators except during take-off.

(4) With some engine installations, the available intake air heat may be far greater than that necessary to prevent icing. The continuous use of excessive heat may result in a serious loss in power, engine overheating, detonation, and possible damage to the engine. Under these conditions be guided by the temperature indicator in the application of heat.

(5) Remember that loss of power means loss in heat available for de-icing and ice prevention. The effect is cumulative. The reduction in heat available may be great enough to make it impossible to remove the ice formed or prevent any further formations and, therefore, result in complete power loss.

(6) From the icing standpoint it is inadvisable to operate at reduced throttle settings over prolonged periods when icing conditions exist.

(7) Avoid flying through rain or overcast when the temperature is at 70°F. or less, unless the aircraft is equipped with adequate engine anti-icing or de-icing equipment.

Pres. Travels 6,000 Miles

(Continued from Page 4)

ness, covering more than 6,000 miles.

Pilot Reinstated in Northeast Case

In addition to signing the last domestic pilots' employment agreement with National Airlines, Inc., an important grievance case on Northeast Airlines was settled. This alone consumed weeks of work, and ended with the reinstatement of the chairman who had been released to his former position without loss of seniority, a withdrawal of the charges made against him, and a settlement on back pay. The Northeast Airlines Adjustment Board convened, but the case was really settled between the company and the representatives of the pilots through the medium of informal last minute conferences where all of the facts were frankly discussed and carefully weighed. Both sides are to be complimented for the conciliatory attitude they displayed which resulted in a quick and equitable settlement.

ALPA Committee Tests UHF Range

Another important event during the past month was the testing of the CAA's new ultra high frequency radio range facility at the CAA experimental station at Indianapolis, by a subcommittee of ALPA's Air Traffic Control and Airway Aids Advisory Committee. These tests consumed a number of days and are described elsewhere in this issue.

The Central Executive Council met on November 17 and December 15, and considered many important questions, certain of which had to do with problems related to the declaration of war.

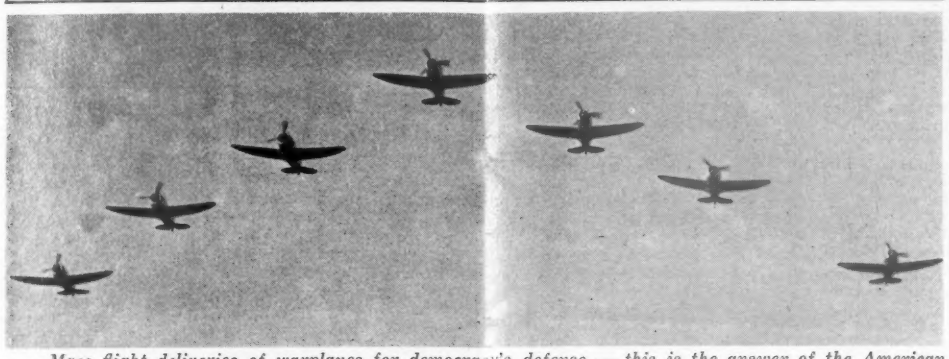
Engineering Group Ends 2 Year Study

Also active during the month was ALPA's Engineering and Airworthiness Advisory Committee, concluding its recommendations to the CAA resulting from almost two years of study on the subject of performance requirements for air line category airplanes. In other words, the Civil Air Regulations that will govern the building and performance characteristics of the air liners of tomorrow. On December 22 the Civil Aeronautics Board held a meeting to consider the final adoption of these proposed regulations and to consider the final recommendations of the Air Transport Association, the Aeronautical Chamber of Commerce, and the Air Line Pilots Association. The members of the Engineering and Airworthiness Advisory Committee are hopeful and quite confident that from these new chapters of the CAR engineering regulations will come air line equipment much superior to present day aircraft with special reference to stalling characteristics and low speed maneuvering capabilities. The members of this committee spent many long, tedious hours studying the numerous and involved engineering problems in question, which have challenged the best engineering minds in the industry for upwards of two years. For this they deserve the wholehearted appreciation of the entire air line piloting profession.

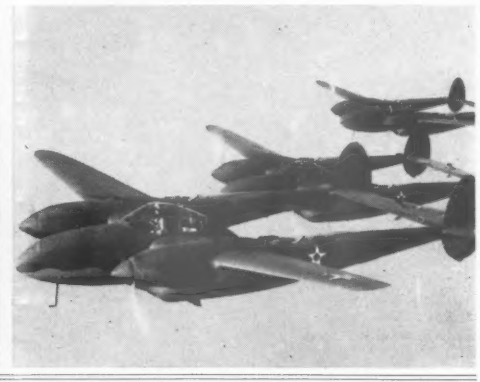
President Spends Eight Days in Capital

Mr. Behncke has just returned from an eight-day trip to Washington, where he spent a great deal of time studying and dealing with currently important problems of importance to the air line pilots. The activities of the past month also included considerable work of an advisory nature on many questions concerning the nation's airport program, the highlight of which was assisting with the selection of an airport site for one of the country's largest cities.

It Has Happened to Us — The Answer . .



. . . Mass flight deliveries of warplanes for democracy's defense — this is the answer of the American aircraft industry to the call to "Keep 'Em Flying." Each day from coast to coast they roll off factory assembly lines in ever-increasing numbers and take the air to make the enemies of the United States say "Uncle."



Ultra High Frequency Falls Into Two Categories; Visual Feature Favored

(Continued from Page 1)

apolis for the purpose of carefully examining and testing the CAA's new ultra high frequency radio range facilities.

Two Types of UHF Layouts

These new facilities can logically be divided into two parts. One follows the same general pattern of today's low frequency 4-course aural beam station setup, and the other layout has two courses that are visually indicated on a dial on the instrument board and two courses that are aural. The two aural courses are created by the interlocking of two sector identifying signals D and U.

For purposes of illustrating, everything north of the course is considered blue, and everything south of the course is considered yellow. Everything east of the center line passing through the station is covered by an aural D, and everything west of this center line is identified by an aural U. By looking at the visual indicator to see what color you are flying in, and by listening to the aural signal, the pilot is able to quite readily identify his position. For instance, when in the blue and with an aural D, one knows immediately that he is in the NE quadrant.

Several members of the subcommittee were of the opinion that the aural part of the ultra high frequency facility should not be referred to as aural beam courses, but that the entire facility should be referred to as a two-course visual ultra high frequency range with aural sector identification. The visual feature of the UHF facility made quite an impression on the subcommittee, and to use the language of one of the members, "It certainly works pretty slick."

North of Course Blue—
South of Course Yellow

According to the present plan, everything north of an airway will be considered as in the blue area, and territory south of the airway will be considered as yellow area. This visual course layout is reflected by the dial indicator in such a way that when an airplane is north of the course, the indicator will point into the blue field on the dial. If south of the course, the pointer will lay in the yellow. The pointer is sensitive to the point that it shows relative distances, because, for example, if the plane is flying in the blue area and begins to near the on course, the needle assumes a related position on the dial, swinging toward the center of the instrument where the blue field meets the yellow, and when the plane intersects the on course, the dial indicator is in the exact center of the instrument, showing that the plane is on course.

Two Aural Sectors Identified By Code Letters D and U

In addition to the north and south sections which are visually apparent, two aural sectors identified by the code letters D and U are transmitted from the same station forming an interlocking on course beam across the station at right angles to the course formed by the blue and yellow sectors. Through the combination of the visual indications and the aural signals, it is possible to at once know one's quadrant position without having to perform an orientation problem, and on this same point through the use of the visual courses and the sector identification letters D and U quadrants are effected because the visual course splits the complete circle around the station into two halves, thereby in reality creating quadrants. It appears to be especially accurate for approach purposes when approaching a field near or on which a visual UHF beam station is located. Of course, volumes could be written on the subject, but, in short, what UHF radio range facilities will mean are station and storm static free reception and the elimination of multiple courses. For this reason, it proves a fine homing device, far better than the present low frequency beam facility can offer.

UHF Is "Line of Sight" Radio Wave Projection

The high frequency signal is projected in a line of sight manner from the station in a rather flat cone-shaped pattern. The closer to the station that the plane approaches, the more readily can the signal be received at low altitudes, and, conversely, the farther a plane is from the station, the higher it must be to receive adequate signal strength. Also, all range UHF stations must be located in the center of areas in which all obstructions such as trees, etc., must be at least 500 feet away from the station.

While there are a number of inherent faults and a number of bugs to be worked out, this new facility gives promise of being the airway beam station of tomorrow.

Instruments to Be Regulated

The Civil Aeronautics Administration will soon submit to the aviation industry regulations governing approved type certificates for instruments used in air line equipment, according to Jerome Lederer, Director of the Safety Bureau of the Civil Aeronautics Board.

In a recent letter, Mr. Lederer writes:

"I am pleased to inform you that the CAA has found a suitable man to head this section of its Engineering Division, and rapid progress will be made from now on, I believe. I understand that the man who will head the instrument section has been doing similar work for the Army and knows his job thoroughly. Next week one of our men will accompany him on a visit to the instrument manufacturers in the New York area."

Receiving careful consideration at the 1940 ALPA Convention, this issue of taking steps in the production of aircraft instruments to guard against inferior, slipshod manufacturing was formed into a resolution which reads:

"Resolved that: Instruments used in air line ships be manufactured under an approved type certificate."

Committee Leans to Visual Features

The ATC and AAAC has not yet made its recommendations to the CAA based on the observations and tests of its subcommittee, but it is felt that a final report to the CAA will with certain reservations be favorable. Judging from the preliminary remarks of the subcommittee, the pilots will lean towards the visual UHF facility as being greatly preferable to the conventional four-course aural layout employing the UHF principle. They will no doubt base their contention on two factors, the first being the manner in which a pilot can quickly and actually determine his exact quadrant position, and, second, because of the high degree of accuracy that the visual dial indicator affords regardless of the attitude of the airplane.

All this, however, is purely speculative since a definite report of the subcommittee has not yet been made. A meeting of the committee will be held shortly to thoroughly discuss the entire matter and complete a consolidated report to the CAA on the practicability of ultra high freqency radio range stations in regular air line operation.

Civil Air Regulations — Legislation

Additions - Changes - Amendments

SPECIAL REGULATION No. 195
EFFECTIVE NOVEMBER 6, 1941,
ADOPTED NOVEMBER 6, 1941.

Martin Airport, Baltimore, Md.

"No civil aircraft except aircraft in scheduled air transportation shall be operated between the hours of 10:00 a. m. and 1:00 p. m. on Saturday, November 8, 1941, within three miles of the Martin Airport, Baltimore, Maryland, unless special permission shall have been obtained from the Administrator of Civil Aeronautics."

CIVIL AIR REGULATIONS AMENDMENT 20-22
EFFECTIVE DECEMBER 1, 1941,
ADOPTED NOVEMBER 14, 1941.

Private Pilot Certificate

Section 20.124 is amended to read as follows:

"20.124—Physical Condition. Same as in Section 20.104."

CIVIL AIR REGULATIONS AMENDMENT 60-44
EFFECTIVE DECEMBER 1, 1941,
ADOPTED NOVEMBER 21, 1941.

Certified Danger Areas

This amendment strikes Section 60.333 "Certified danger areas."

CIVIL AIR REGULATIONS AMENDMENT 60-45
EFFECTIVE DECEMBER 1, 1941,
ADOPTED NOVEMBER 21, 1941.

Flight Enroute

Section 60.348 is amended as follows:

"60.348—Airspace Reservations. No flight of aircraft shall be made within any airspace reservation set apart by order of the President of the United States, any authorized Federal Agency, or by any of the several States, pursuant to the provisions of the Air Commerce Act, as amended, or other applicable law: Provided, however, That such restriction of flight shall not apply to public aircraft previously authorized by the appropriate governmental agency to make such flights." (See Appendix A for a list of airspace reservations.)

Note—Areas which the Administrator believes to be hazardous to aircraft, by reason of the activities carried on in such areas, may be indicated on the aeronautical charts as 'Danger Areas' and published in Notices to Airmen. Such areas will include congested flight training areas, anti-aircraft firing and training areas, field artillery firing and training areas, coast artillery firing and training areas, barrage balloon training areas, aerial gunnery firing ranges, proving grounds and any other area in which activities are conducted which would constitute a serious hazard to aircraft in flight. Pilots are warned of the extreme danger to themselves, their passengers and their aircraft should they enter such an area without first ascertaining that the activities which make the area hazardous are not to be carried on at the time of the flight.

CIVIL AIR REGULATIONS AMENDMENT 60-46
EFFECTIVE DECEMBER 1, 1941,
ADOPTED NOVEMBER 21, 1941.

Minimum and Maximum Altitudes of Flight and Weather Minimums

This amendment strikes Section 60.3501.

CIVIL AIR REGULATIONS AMENDMENT 61-18
EFFECTIVE DECEMBER 1, 1941,
ADOPTED NOVEMBER 14, 1941.

Altitude Recording Device

Section 61.341 is amended to read as follows:

"61.341—Altitude Recording Device. No aircraft with gross weight in excess of 10,000 pounds shall be operated in scheduled air transportation of passengers after April 1, 1942, unless it is equipped with a device or devices which make a record of the altitude of the aircraft and the use of the aircraft's radio transmitter at all times during flight. This device shall be so constructed and installed as to afford substantial protection of the record in the event of an accident to the aircraft."

CIVIL AIR REGULATIONS AMENDMENT 61-19
EFFECTIVE NOVEMBER 21, 1941,
ADOPTED NOVEMBER 21, 1941.

Dispatchers

This amendment amends Section 61.555 as follows:

"61.555—A dispatcher shall not dispatch visual-contact, instrument or over-the-top flights, either day or night, below the respective minimum specified for such flights in the weather competency letter, except as provided in Section 61.71091(b)."

* * *

NEW BILLS

H. R. 6068—Clare E. Hoffman (R)—Michigan—November 19, 1941. An Act to be known as the "Unions Registration and Elections Act of 1941."

—*ALMA Photo*

MECHANICS *The Air Line Mechanics Association, International, held their fourth convention at the Del Prado Hotel in Chicago on December 1, 2, 3, 4. The Mechanics Association is an up and coming organization that is rapidly assuming a timely and important position in the employee representation field of air transportation. In this respect it should be noted that Title II of the Railway Labor Act, which was sponsored and brought into being through the efforts of the Air Line Pilots Association, covers in a like manner and to the same extent all other employee groups in the field of air transportation. The 1941 convention of the Air Line Mechanics Association was reported to be a very harmonious and successful meeting, and its officers were re-elected for a term of three years. L. to r.: T. B. McCue, International Vice-President; J. L. McFarland, International President; and John Seigle, International Secretary-Treasurer.*

FIGHTS CROCODILE—PROVES TO BE LILY PAD

(Continued from Page 4)

Flown in Tight Weather
6 Hours, 15 Minutes

Needless to say, I was extremely tired. For 6 hours and 15 minutes I had flown in tight weather with a computor in one hand trying to estimate ground speeds and "points of no return," besides working the dot and dash radio off and on.

Since this area is tropical we were all wet and sticky. We learned that the approved method of taking a bath was to go out on the lake in a canoe, and with gourds dip water and pour it over your person. It was dark by this time, and Alfredo and I went out with one of the natives to have our bath. Since part of the natives had assured us that there were no crocodiles in the lake and some of the other natives had assured us that there were, I was rather inclined to believe that there were.

Sitting undressed in a canoe in a jungle lake is not conducive toward nonchalance. I was standing up, and in the wake of our canoe I was sure I saw a crocodile stick up his nose. I took one of the paddles and fetched him a tremendous whop, nearly capsizing the tricky dugout canoe. The crocodile nose proved to be nothing more than a lily pad, but we were really in for a thrill yet.

We had a lighted lantern, and some of those vicious birds that fly down and rip open the backs of livestock for their meals began diving at us. I had seen these birds mounted in the Museum of Natural History, but never expected to meet any. By slashing around with the paddles and putting out our light they finally left us.

Our bath more or less completed, we returned to the shore and found that General McCoy and his Aide had decided to follow suit. I can't pass here without being reminded that it was more than a little humorous to me to see a U. S. Army general sitting in a native canoe, with his aide, in a jungle lake in northern Brazil pouring water over himself. The General was a sport, however, and took it all in his stride.

Spend Night in Plane Fighting Mosquitoes

We had a hot dinner at the shack, and I returned to the plane with some guides with dinner for the flight mechanic who had remained with the plane. The flight mechanic and I spent the night on the plane fighting mosquitoes, afraid to get out of the plane for fear of snakes.

The next morning we took off and landed on tiny Lake Amapa and refueled from barrels of gasoline brought to us in a native canoe. The natives had worked all night rolling the barrels of fuel from the Government cache and transporting them across the lake by canoe. The gasoline was the wrong octane rating, it being No. 80, whereas our engines were set up for No. 87 or No. 90. So we put all we had left in one tank for the take-off and filled up with No. 80. We needed motor oil badly, but there was none to be had.

When we had refueled and were ready to go it was nearly noon. The nice breeze we had on the lake earlier that morning while we were taxiing around with the gear down surveying the runway areas was gone. It was now a dead, dead calm and the water was slick. The lake was so shaped that the runways fitted into an L-shaped pattern. Both runways appeared too short for a safe take-off with our load. A mark was selected on the bank so that if we were not off the water by the time we arrived there, we would have plenty of room ahead to stop. The obstructions at all sides of the lake were jungle trees.

Right Angle Turn to Other Runway

I decided that if we could get up enough speed to get on the step using a portion of one runway, and if we could make the nearly right angle turn gradual enough on to the other runway, we would have a better chance of getting off. In our take-off we did just that. Pilot Steve Parkinson of Eastern Air Lines had shown me that the Grumman could be taxied around in close quarters on the step almost like a motorboat. So we got up on the step, using a portion of one runway, made our turn, and with full power started down the other runway in water as slick as ice. Just before arriving at our deadline mark on the bank I put full flaps down, and she jumped off the water like a flying fish. With a good healthy rate of climb we were off and out and over the jungle and on our way.

Before leaving Lake Amapa we had learned from the natives of another recently constructed airport at the town of Macapa on the north bank of the Amazon River, and since we needed motor oil plus the fact that the low octane rating of the fuel we had was causing the cylinder heads to run a little hot, we proceeded toward Para with a view toward pulling up the river and stopping at this airport. We got down to Macapa, which is about 100 miles up the Amazon River.

At Macapa we got our motor oil, and since at this point it was only 285 miles across the river to Para on the south bank, we started off again. Over this river of many rivers (since there are numerous long islands in the center separated by individual rivers each one larger than our own Mississippi) there are absolutely no points of reference, and the Hydrographic chart merely shows dotted lines in this area with a note stating "insufficiently charted." Since the weather was not good we especially noted our drift and accurate elapsed time out from Macapa in case it should become necessary to return.

As we flew over these river islands, numerous columns of steam fog kept rising up out of the jungle reaching right to the ceiling, which was around 300 to 400 feet, but with fair visibility, and occasionally crocodiles could be seen. Suddenly we ran out of ceiling and visibility all at once and found ourselves alongside a large healthy thunder and lightning storm, and when these are encountered in this region they usually cover an area of 100 miles or so instead of the usual small area squalls generally found in the tropics. So we decided to return to Macapa—this tiny spot in the heart of the Amazon jungle.

No Radio Bearing Resulted in Barnstorming

Instead of adopting a reverse course, we took a course that would bring us about 50 miles down the river from Macapa, inasmuch as a strong easterly wind had sprung up, and we wanted to be definitely sure of knowing exactly which side of Macapa we were on when we arrived at the north bank. A simple little thing like a radio bearing on Macapa would have made the flight merely routine. As it was we were barnstorming, and since we were inland and not along coast lines, we had to reduce our gas load in order to keep single-engine performance in the event this became necessary, considering the type of country over which we were flying. A few minutes up the river brought us back to Macapa, which was certainly a welcome sight.

There is an ancient fortress at Macapa over 300 years old built by the Portuguese, and long since grown over by the jungle. It is interesting to note that all the stone for this fortress was imported in Portuguese sailing vessels since there was no stone to be had along the Amazon. We were delayed here two days by weather—lightning storms and deluges of rain. We visited this interesting old fort and secured souvenirs of cannon balls, which we discarded after carrying them about one mile.

A visit to a native store disclosed such casual pets as a caged boa constrictor, jungle tigers, etc. The storekeeper made us each a present of a gold nugget, of which he had a double handful, but would not disclose where he had found them. He intended, he said, some day to return for more. The airport was hewed right out of the jungle. To walk to the end of the runway meant wading through occasional snakes and fleas which crawl right into the flesh under the skin and raise young ones. The ants swarm over your ankles and bite, leaving hideous dark blothches that remain for months. A person could not move one foot into the jungle without some sort of cutting machinery—it is that dense, besides being sprinkled with a generous assortment of all kinds of detrimental insects, snakes, crocodiles, etc.

Macapa, Brazil, is about a mile north of the equator.

Cross South America on Amazon

An idea can be gained of the length of the Amazon by noting that it is possible to board a canoe less than 50 miles from the Pacific Coast in Ecuador and, through the tributaries of the Amazon, emerge in the Atlantic Ocean, crossing the entire country of Brazil, which alone is larger than the continental United States. To do this would mean running the gauntlet of all the primitive jungle life, including uncivilized Indians who still hunt with blow guns.

—United Air Lines Photo

BROTHERS **Here are Homer Cain, left, and Guy Cain of Seattle, latest additions to United's list of captain brothers. Homer formerly flew as Guy's first officer but recently received his captain's wings. On a connecting line, Northwest Airlines, there is employed a famous twin brother team of air line pilots, Charles L. Smith and Robert L. Smith. The same is also true of TWA which has on its roster the twin brothers, L. M. Williams and M. C. Williams. Inland Air Lines has a president-pilot brother combination. Joe Leferink flies for his brother, Dick, who is President and owner of the air line.**

VICIOUS CIRCLE

Post Office Clerk: "Here, your letter is overweight."
McFire: "Over what weight?"
P. O. Clerk: "It is too heavy; you will have to put another stamp on it."
McFire: "Yerra, ge out wid your fooling. Sure, if I put another stamp on it, won't it be heavier still?"

* * *

IT'S ALL IN THE VIEWPOINT

He had taken pains, when he applied for work, to assure the farmer that he never got tired. When his new employer went to the field where he had put the man to work, he found him lolling on his back under a tree.

"What does this mean?" asked the farmer. "I thought you were a man who never got tired?"

"I don't," replied the hired man, calmly. "This doesn't tire me."

* * *

NOT SO CRAZY

Once upon a time two men were crossing a large field. When they were right in the middle of the field, a big bull came charging toward them.

One of the men found a tree and climbed it as rapidly as possible. The other couldn't get to the tree in time, but, seeing a large, sociable-looking hole in the ground, he jumped into it.

The bull pretty nearly got him as he went down, but just missed him and jumped over the hole. The man came up again like a jack-in-the-box. The bull gave a snort and jumped at him again.

Down went the man and over went the bull, up came the man and back came the bull, till the man up in the tree got excited and called down: "You crazy fool, why don't you stay in that hole? You'll get that bull so mad he'll keep us here all summer."

"Crazy fool, yourself," yelled the man below, "there's a bear in that blasted hole!"

* * *

NOT TO BE TRUSTED

Two Swedes were occupying the same bed one night, and one was amusing himself by throwing the rays of a flashlight up to the ceiling. Finally he said to his partner, "You ban a purty smart Swede. Let's see you climb that beam of light."

"Ha, not me," said the other Swede, "You can't fool me. I would be only halfway up, and then you would turn off the light."

* * *

IT COULD HAVE BEEN SERIOUS

It appears that a certain airport night watchman, otherwise a very fine man, had one failing—he believed that water should rightfully be used only for running under bridges.

As the story goes, he got along very well with his wife, but with his mother-in-law—well, that is a different story. They feuded continually, and finally it was mutually agreed that they would never speak to each other again—no, never, and forever and ever.

Finally the mother-in-law moved to a town about 14 miles away. It then became the painful duty of the hero of this story to occasionally, upon the insistence of the good wife, drive over to the neighboring village and pick up his mother-in-law, and bring her home for a visit. These trips, according to the previously made nonspeaking pact, were always made in deepest silence.

Long about this time our hero had been indulging more than averagely frequent, and he had been repeatedly warned by many of his close associates that if he kept it up he would surely suffer the D.T.'s. He thought about this a good deal and developed a genuine horror of the day when this might happen.

About this time he was making one of his famous trips to bring his mother-in-law to visit. The usual state of deepest silence prevailed. Suddenly, several hundred yards ahead of his speeding automobile he saw a very large elephant directly in the middle of the road.

In horror he quickly reflected, "My Gawd, I've got 'em. I've got the D.T.'s. I'm seeing things — that elephant is a liquor introduced mirage. My only escape now with my mother-in-law present is to drive straight ahead in the middle of the road without slackening speed and act like I'm perfectly normal."

Gritting his teeth and steeling his nerves, this he did, and then just a short distance from the elephant, which had evidently strayed from a nearby circus, his mother-in-law grabbed him around the neck and said, "You darned fool, don't you see that elephant?"

Hold the wire—Oh, what happened?

He missed the elephant and landed on the water wagon, and his mother-in-law is still trying to figure it out.

* * *

STUDENTS LAMENT

With my map and my computer in my hand,
I fly the length and breadth of this fair land.
My compass reads my course,
I send messages in Morse
With my map and my computer in my hand.

With my map and my computer in my hand
I navigate and fail to understand.
I try to hold my track,
But it's a terror getting back
With my map and my computer in my hand.

With my map and my computer in my hand
I'm a calculator fit to beat the band,
But I'm pretty sure to swing
'Cos I can't fly the bloddy thing
With my map and my computer in my hand.

With my map and my computer in my hand
I fly through fog and sleet o'er sea and land.
I never find my way,
Still I fly from day to day
With my map and my computer in my hand.

There isn't much to say
For I'm sure to lose my way
With my map and my computer in my hand.
It will surely hurt my pride
When I take that washing ride,
Sans my map and my computer—that's on land.

—Written by a British student in the Terrell Aviation School, Inc.

* * *

FALSE ALARM

A congenial citizen was engaging in the usual meaningless repartee with the bartender down at the neighborhood pub while having a couple nightcaps, when suddenly the doors flew open and in rushed an excited stranger who breathlessly yelled, "Maguire, your house is burning down."

The congenial citizen rushed out and raced madly down the street for several blocks, then skidded to an abrupt stop, scratched his head in bewilderment and said, "Hell, my name isn't Maguire."

—Thanks to J. M. Gilmour

* * *

FRUITS OF CAUTION

A careful driver approached a railroad: stopped, looked, and listened. What did he hear? The car behind him crashing into his gas tank.

SMILES NOW I'LL TELL ONE. THE OCCASION WAS THE VISIT OF A SUBCOMMITTEE OF ALPA'S TRAFFIC AND AIDS COMMITTEE TO THE CAA EXPERIMENTAL STATION AT INDIANAPOLIS, NOVEMBER 25, 26, AND 27, FOR THE PURPOSE OF OBSERVING AND TEST FLYING THE CAA'S NEW ULTRA HIGH FREQUENCY RADIO RANGE FACILITY. HERE ARE DAVID L. BEHNCKE, PRES. OF ALPA (LEFT), AND JOHN EASTON, CHIEF OF TECHNICAL DEVELOPMENT DIVISION. MEMBERS OF THE ALPA SUBCOMMITTEE WHO PARTICIPATED WERE PILOTS C. F. BATES, NWA MIRACLE MAN; E. A. CUTRELL, AA; H. P. LITTLE, UAL; V. A. PETERSON, EAL; AND R. A. NOLAND, TWA.

Tax Deduction Plan Devised

By CHARLES J. KRATOVIL
Council No. 2, TWA
New York, N. Y.

Here's a reprint, my friends, of a couple of letters I have from Assemblyman Norman F. Penny and New York State Senator Perry B. Duryea about enactment of legislation at Albany which would make it possible for *you* to deduct *your* Federal income tax payment from your New York State return.

Each of you could help the idea gain momentum by taking five minutes of your leisure time and writing these men a note urging them to get behind this kind of money saving legislation.

The following is a letter from Assemblyman Penny:

Mr. Dear Mr. Kratovil:

I appreciate receiving your letters of November 28, written on behalf of the members of the New Salem Civic Association of Port Washington and the members of the Air Line Pilots Association residing in Nassau County, urging that I support the proposed amendment of the New York State Income Tax Law to allow the deduction of Federal income tax payments in computing state income tax returns.

This matter had already received my attention, and I have had a conference with the Chairman of the Ways and Means Committee about the possibility of correcting this situation.

We are now having facts and figures prepared in order that we might be able to determine this question as soon as we arrive in Albany in January.

My personal feeling is that it should be corrected, if it does not throw the State of New York into too much of a turmoil. You can rest assured it will receive my attention during the next session of the Legislature.

Sincerely yours,
Norman F. Penny.

State Senator Duryea from Nassau County, L. I., N. Y., writes:

Dear Mr. Kratovil:

I have your letter in reference to the proposed amendment to the State Income Tax Law, which among other things allows an exemption to be taken for Federal income taxes paid.

I understand that there are several pieces of legislation affecting the State Income Tax Law to be presented to the Legislature at the 1942 session. Let me assure you that I shall give this legislation my careful attention.

Sincerely,
Perry B. Duryea.

Bureau Installs 250 Indicators

F. W. Reichelderfer, Weather Bureau Chief of the United States Department of Commerce, reports that the Bureau now has on order 250 direct reading wind indicators to be installed at airport terminals, in addition to the original 20 ordered for experimental purposes.

Majority of the instruments should be delivered by the first of the year, according to Reichelderfer. The delivery schedule called for 20 of these indicators to be shipped each week beginning September 1, but this was subject to necessary revision and delay because of the priority rating system imposed on defense materials.

A distribution program has been worked out in co-operation with the Civil Aeronautics Administration giving preference, of course, to the most important terminals which at present lack equipment of this type.

The Air Line Pilots Association has been active in the furthering of this program. At the 1940 ALPA convention, the following resolution was passed:

"Resolved that: Direct reading wind indicators be installed at stations where airplanes are utilizing Weather Bureau surface wind reports for landings and take-offs."

Co-operation

(Continued from Page 3)

Association, especially at local council meetings. It is believed that if the parlimentary procedure is strictly adhered to at council meetings, they will work out to the best interest of all concerned. All routine business can be efficiently transacted, and the general interest of all present will be kept at a higher level.

Meetings Deteriorate Into Bull Sessions

In the past a number of meetings have been well attended, but the interest of the members has waned due to the fact that the meetings tended to break up into a bull session and seemed more like a bunch of girl hockey players bickering about the colors of their lipsticks than they did sessions of pilots discussing matters of vital interest and importance.

I am sure the co-operation of our President in this matter will be 100 per cent, and I am asking the members of this Council to try it once and see if it doesn't work. The Association is essential to the best interest of all of us, and I am sure that the more co-operation we give, the better organization we will build and have.

Antelope, Chase, No Culvert, X!?!

(Continued from Page 2)

driving along an old, abandoned highway they jumped some, and the chase was on. Joe was driving, and he was so excited he forgot to watch the road. Can you imagine, someone had decided the road did not need a culvert and ceremoniously had removed same. After the dust cleared, Joe had spread the landing gear, and Chuck was rubbing the polish off the top of the hood, after emerging through a hole in the windshield which he had so rudely opened.

After a few baseball stitches in his covering above the shoulders and a proper application of chemicals by an approved repair shop, he was able to return to work in about a week. Joe was not badly bruised, and after an appraisal on equipment it was deemed advisable to turn in the remains on a new Buick. Incidentally, this new one is as big as a house. We are hearing rumors that the new one worked fine on a recent elk hunting trip to Pinedale and Boulder, Wyo. Wing flaps prevented same from sinking into oblivion due to too much moisture on susceptible ground. After being stuck in the mire more than they planned, they finally arrived back home, proud of all the modern gadgets on "When Better Cars are Built?"

A few days ago we certainly had a merry-go-round on one of our routes due to weather and a mechanical. We flew so many trips through Rapid that finally the radio operators just spun in with Flight 7-21 running just ahead of 7-23, then 7-23 passing 7-21. It was simply too much. Trips were operating so fast and furious that some of the crews met themselves going and coming.

Ken Turner and wife just returned from a vacation trip to Havana, Cuba. Ken has been in a rumba ever since. They say they had a wonderful trip and lots of ?????

"Confusion of Licenses," in One Act

Scene, Missoula Airport. Arrival of Western Air Lines trip from Great Falls.

Chuck: "Honey, did you get the license?"

Joan: "Why, darling, no. I wanted you to be with me."

Chuck: "Gosh, honey, you didn't need me to get it, and besides we haven't got time to wait another minute. I am in an awful hurry; been planning on this all the way."

Joan: "Why, darling, you cannot rush our wedding like this. Those details take time."

Chuck: "Oh, dear me, sweet, I was talking about a hunting license. Did you forget we were to go pheasant hunting as soon as I got in. We can always get the other license when we have time.

With this, we announce the marriage of one of our popular first officers, Charles Metcalfe, to Miss Joan Vinson of Missoula on October 27 at Butte, Mont. May all your troubles be little ones. Ask some of the older boys.

Must desist as ball and chain wants this table, and so for now, adios.

24-Hour Clock

(Continued from Page 1)

to all aircraft pilots and all aircraft operators contacting communication stations and air traffic control service.

Following are quoted paragraphs from the Administrator's letter which will be of interest to the line pilots.

"All Airway Communication Stations of this Administration and all offices of the U. S. Weather Bureau indicate the time of day in exactly four figures, utilizing the 24-hour clock system. However, the Air Traffic Control Service of this Administration utilizes the conventional 12-hour clock system.

"In the interest of uniformity it has been decided that, effective 0001E January 1, next, the 24-hour clock system will be adopted by the Air Traffic Control Service and used when reference to the time is required in all traffic information issued by this Service.

"It is recommended that effective January 1, 1942 all aircraft pilots and all aircraft operators contacting Communication Stations and Air Traffic Control Service utilize the 24-hour clock system when stating the time.

"It should be understood that the procedure described above will permit omitting the hour when not essential to the identification of the time. Under such circumstances, the time may be stated in minutes only."

ALTITUDE AND THE AIRMAN

Final installment of the article, "Altitude and the Airman," written by Dr. Ross A. McFarland, and abstracted by the late Dr. Ralph Greene.

XV. CONCLUSIONS. (Cont'd.)

Fitness Aids Acclimatization

(b) Physical fitness. There are wide variations in ability to tolerate high altitude based upon the physical characteristics of the person being studied. On the occasions when subjects came to the laboratory to participate in some of the experiments described above, following a night of disturbed sleep or with minor illness (headaches, indigestion, or colds), their responses were very poor and their ailments markedly accentuated. The airman should maintain a high degree of physical fitness, since it undoubtedly facilitates acclimatization to high altitude.

Passengers with advanced respiratory or cardiac defects should be discouraged from high altitude flying unless oxygen can be inhaled. A number of cases have been reported in the literature suggesting that syndromes such as malaria and tuberculosis disorders may become active due to oxygen lack.

Average Patient Who Can Walk Can Fly

Although it appears to be true that the average cardiac patient *who can walk can also fly*, the altitude should be restricted so as to avoid any serious effects during or after the flight. The average cardiac patient is not apt to collapse during a flight, as witnessed by the fact that so few have actually died on the commercial air transports. It is known that under certain degrees of oxygen deprivation, coronary vasodilatation occurs in which case it may well offset, in part, at least, the unfavorable effects of high altitude. If oxygen can be inhaled during a flight, many physicians would prefer to have their patients fly rather than travel by motor or train.

(c) Emotional stress. The average passenger who becomes emotionally excited is apt to respond to high altitude very poorly indeed. We observed that neurotic patients who were under constant emotional stress and who complained constantly of fatigue and exhaustion were more susceptible to collapse when suddenly placed in simulated altitudes of 18,000 feet compared with control subjects. It is quite possible that those individuals who are under temporary or chronic emotional stress react poorly to a reduction in oxygen pressure, since the nervous mechanisms involved in adaptation to oxygen lack are similar to the ones involved in emotional experiences (sympathetic nervous system). These findings indicate that the airman should not attempt to fly if unduly worried or emotionally upset.

Hinders Delivery of Oxygen

(d) Alcohol. In a previous report on "Alcohol and the Airman," it was shown that the alcohol hinders the delivery of oxygen to the tissues. Therefore, if one ingests alcohol previous to flight at high altitude, one would be subject to the effects of both a reduction in oxygen from the atmosphere and from the alcohol as well. This appears to be substantiated from the observations of stewardesses on the commercial air line planes that those who react to altitude most severely (as manifested by excessive sleepiness, headaches, or nausea) have indulged in excessive amounts of alcohol previous to the flight. The average passenger should be discouraged from the use of alcohol previous to flying, and the implications are obvious for the pilots who are in control of the airplane.

7. The beneficial effects of an *excess amount of carbon dioxide* were very striking in the experiments described above in the low oxygen and low pressure chambers. No unpleasant effects were experienced with 3.0 per cent carbon dioxide in the inspired air at sea level. The results indicate that this amount of carbon dioxide in the inspired air gives rise to an increased pulmonary ventilation and a greater saturation of the arterial blood with oxygen, which lowers the altitude by approximately 5,000 feet. These findings suggest that an accumulation of 2 to 3 per cent of carbon dioxide in the fuselage of an airplane might prove to be of practical significance in greatly increasing the pulmonary ventilation and consequently the acclimatization of the passengers.

8. From the practical point of view of the airman, the use of oxygen during prolonged flights above 10,000 feet and short flights above 12,000 feet is necessary for safety and for the maintenance of fitness. It keeps one's mind alert and one's heart and respiration efficient, and it also abolishes the disagreeable symptoms of headache, lassitude, and fatigue. (The End)

—TWA Photo

UNUSUAL *It is not often that a group of important personages with such widely different backgrounds, and all important in the field of commercial aviation, are photographed. Left to right, they are: John Groves, Manager, Washington National Airport; General Donald H. Connolly, Civil Aeronautics Administrator; Mayor Edward J. Kelly, Chicago; Robert E. Hinckley, Assistant Secretary of Commerce; I. S. (Stick) Randall, TWA. The picture was taken in the control tower at Washington's new airport.*